

# Wavelength Stabilized High Brightness Direct Diode Pumps for Solid State LIDAR Systems at Eye-Safe Wavelengths, Phase I

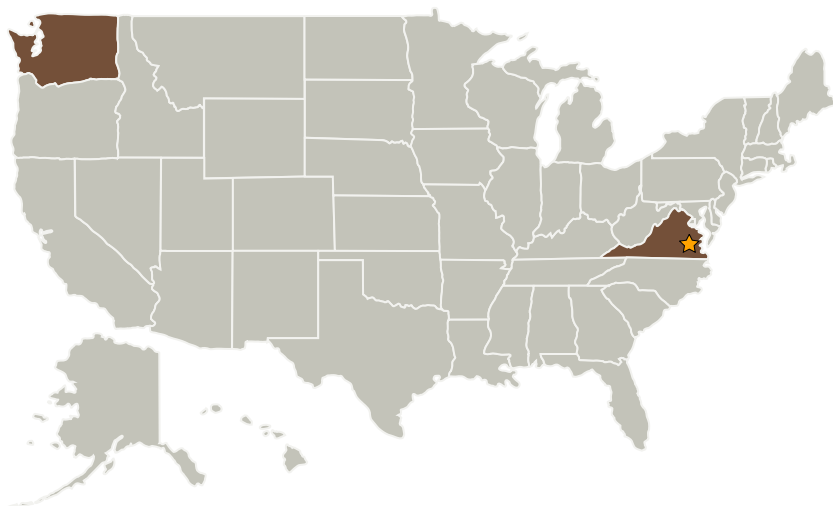
Completed Technology Project (2008 - 2008)



## Project Introduction

Proposed is a high power, high efficiency, high reliability compact eye-safe LIDAR source. The diode pump source is an electrically series-connected array of single emitters coupled into an optical fiber known commercially as Pearl. During the course of the program nLight will transfer and improve its present record 1470-nm diode technology to a AuSn solder bond line, while also elongating the cavity for better performance. During the second phase of the program, internal gratings will be added to the diodes to narrow the emission line width providing better absorption in the Er:YAG system and a Er:YAG laser meeting the requirements set forth in the solicitation, pumped by the source developed over the course of the program's two phases, will be demonstrated.

## Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★ Langley Research Center(LaRC)	Lead Organization	NASA Center	Hampton, Virginia
nLight Photonics Corporation	Supporting Organization	Industry	Vancouver, Washington



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## Table of Contents

Project Introduction	1
Primary U.S. Work Locations and Key Partners	1
Organizational Responsibility	1
Project Management	2
Technology Areas	2

## Organizational Responsibility

### Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

### Lead Center / Facility:

Langley Research Center (LaRC)

### Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

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## Primary U.S. Work Locations

Virginia

Washington

## Project Management

### Program Director:

Jason L Kessler

### Program Manager:

Carlos Torrez

### Principal Investigator:

Kirk Price

## Technology Areas

### Primary:

- TX05 Communications, Navigation, and Orbital Debris Tracking and Characterization Systems
  - └ TX05.1 Optical Communications
    - └ TX05.1.3 Lasers